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NO-CHILDED AND MANY-CHILDED.

ONE cannot well step over a threshold, without being able to distinguish whether it belong to a house of no children or of many children. There is a primness and neatness about the childless mansion, which is entirely wanting in the many-childed. From the steps outside the door, to the innermost penetralia, all is chill and cleanly decorum. The severest duties of the lady consist in slight repairs of slight derangements of the domestic economy—the re-adjustment of ruffled crumb-cloths after morning calls, the replacing of table-covers after meals, or the removal, from half-worshipped chimney ornaments, of single particles of dust which "have no business there." If the house were something kept under a glass case, it could hardly preserve a more toy-like precision of outline, or a more perfect exemption from all disturbing circumstances. Everlasting silence reigns—or is broken only by sounds which otherwise would not be heard, such as the footfall of the solitary maid in a distant kitchen, or the flutter of the left wing of a favourite canary dipped into his water-glass. Every thing which tends to derangement or to noise is banished. Coal merchants are given up if their wares have the least propensity to either dust or cracking. The cat's infant family are regularly dismissed as soon as they can properly leave the maternal bosom. The visit of a friend's children is dreaded as a descent of caterans upon the peaceful Lennox was dreaded of old; and the damage which a few minutes of them will occasion, although imperceptible to ordinary eyes, is not repaired in less than half a day. In entering such a house, the mind is oppressed with a sense of awful propriety. The tyranny of unimpeachable cleanliness comes upon the heart like the breath of hyperborean gales. One feels like the dove of Noah, as if there were no place whereon to set one's foot. You pass awe-struck among the reflections of glittering furniture, and fear to offend chairs and sofas by sitting down upon them. The very coal-scuttle has a kind of touch-me-not air about it, while the neatly gilded brush beside the bell-pull seems to plume itself much more upon its service towards the ornamental than the useful. Twenty years may have elapsed since the setting up of the house; but every article still seems fresh from the shop of the upholsterer. The fine edge, the primeval shine, the Eden innocence of every thing, is still there.

In a domain thus sacred from disturbance and almost from use, the worthy couple are stuck up like statues in shrines. The lady sits in a perpetual accuracy of attire by window or by fireside—sewing at one endless seam, or engaged upon some volume, from a circulating library which is on the point of declaring itself exhausted. Her husband occupies an opposite chair, like a companion picture, with perhaps the next ensuing volume of the novel. His feet are raised upon the fender; the light is properly arranged at his back; he is endued with slippers and gown, and knows no annoyance but that he has no annoyances. Their meals consist of little dishes not often changed—roasts so small as to have lost all sap, mutton chops, cutlets, and other fiddle-faddles. If they venture upon any ordinary dish, they have to sit down with cold monotony for a week, which is not half elapsed till they wish that they could be conscientiously relieved from it, either by plunder or putrescence. The lady makes it her chief business to coddle the gentleman, and the gentleman makes it his chief business to take care of the lady. There is always one pair of his spare shoes perfectly dried by the side of the fire. In their hearts they pine beyond all that could be confessed for children, but invariably profess to themselves and to each other, that they infinitely prefer the serene comfort

which they at present enjoy, and dread the trouble of rearing an infant. They are nevertheless great theoretical educators. They perceive and discuss every fault in the upbringing of every child of every family of their acquaintance, describe one set of parents as too severe, another as too gentle, a third as having no system at all, and think how beautifully they could correct all the said errors, if they had any thing to say in the matter. In the meantime, while railing at their friend Mrs Easy for spoiling Tom and Fanny, they assiduously pamper their own lapdog Pinch, till the little creature arrives at an aggravation of fat and mischief intolerable to all but themselves. When Mrs Greenfield loses a child, and is absorbed in grief for the event, our worthy pair severely reprehend conduct so irrational, and are clear that no mother is justifiable in neglecting the comfort of the living out of grief for the dead. Next week Pinch dies, and so great are the distress and derangement which follow, that for three days the gentleman has to wear unaired slippers, and the lady thinks of a jaunt to Paris, as the only means of recovering her spirits.

Very different is the abode of the many-childed. If the tale is not told by a group of merry little faces in the doorway, it is pretty broadly hinted when you fall over a tiny wheelbarrow which has been left in the lobby. Should no such danger lurk in your path, you are sure, before advancing many steps, to see some trait of the presence of childhood—a parallelogram of corks designed to represent a house, with a doll seated in it, a thrown away crust, or possibly a single marble—a small object, no doubt, but one quite sufficient to establish the distinction, for long would it be ere such a thing could be seen in the house of the no-childed. There are of course mansions in which the younger members of the family are kept too much apart to allow of such palpable symptoms of their existence in the very entrance—though, even in these, a shoe will sometimes be dropped through the staircase to lie upon the wax-cloth below, a sufficiently conspicuous betrayal of the state of matters in the upper floor; or an occasional burst of wild joy or equally wild grief will tell through the whole house, and perhaps to a certain extent beyond it, that young human beings are there. There are differences, also, in the degrees of freedom allowed to those families which are allowed to escape from nursery domination. A little fellow one day said complainingly to his mamma, "This is not a nice house: in Sam's we can cut the sofas and pull out the hair; but here we can't get any fun at all." Mamma, in this case, had been something strict in her discipline: the state of matters in Sam's may be imagined. But in general there is something in children which defies the best regulations. They cannot move, breathe, or look, without doing mischief. Order flies before their faces; ruin follows their steps. In the average of houses, symptoms of their existence may be seen upon the walls, the floor, every article of furniture—the whole, after a few years, acquire a kind of dimness, as if of over-handling. All is rough and round. Instead of the everlasting neatness and unimpeachable cleanliness of the no-childed mansion, the utmost that can be expected is a temporary and partial good order—confined perhaps to a single room and for an hour at a time—a gallant but unavailing rally against the prevailing influences. It is usually at an early period of the forenoon that the domestic powers thus make head against the enemy. At any later period all is in vain. The fairest provinces of the empire are overrun by the Vandalian invasion, and before evening there is a detritus of ruin in every corner, composed of broken toys, sofa pillows, footstools, and all other things capable of being moved or

destroyed. Every house is of course no-childed before it is many-childed. Every lady has to look back upon a period when she delighted in having things neat about her. She had then centinelled her vestibule with handsome statues, had vases placed upon the ground, and bijouterie strewed upon the tables. But in time all this was seen to be mere vanity and vexation. She became aware that there was a kind of browsing line, beneath which no small article was safe. She came to wish that even the chairs could be hung high along the walls, as in an upholsterer's ware-room, in order that they might be out of harm's way. Like a belle walking home from a gay party in a midnight storm, she has now reeled in every prominent finery, and is content to scud along through existence the best way she can. Little more than the wreck of the former self of the house remains, and her only hope is, that, when this pitiless pelting is over, she may prevail upon Mr Balderstone to furnish anew, so that they may spend their latter days in the same agreeable circumstances which they knew at the outset.

Yet even now it is with no shade of discontent that either of the worthy pair regard the wreck and ruin produced by their children. While full of affected querulousness respecting the noise, the confusion, and the mischief, they secretly sympathise in that very excess of youthful vitality which leads to all that they complain of. To be besieged, climbed, kissed, and torn to pieces by the wildest and most riotous of young rogues—to be sprawled over by unreflecting little misses—to see the whole parlour put into disorder by blind-man's-buff—are miseries which Mr and Mrs Balderstone endure with the greatest possible satisfaction. In early morn the chatter of little voices is heard breaking the silence of night, and the primeval parents of the human race could not have more enjoyed the first burst of the feathered orchestra of Paradise, than do our pair enjoy those sounds, which tell them that God has vouchsafed to their darlings a new day of health. From that time there is not a minute throughout the whole day that can properly be called quiet; but what although it be so? The voices of children, in general, speak either of happiness which it is delightful to contemplate, or of woes which it is delightful to soothe. Little reason is there to pity the mother who spends her day chiefly in the midst of her blooming and playful progeny. At length comes shut of eve, which, in sweeping all away to their dreamless pillows, and reducing the house once more to silence, leaves room for a doubt whether, by its peace, it has brought a relief or taken away a pleasure.

As the youngsters advance in age, the house assumes characteristics somewhat different. You may no longer, in opening a sideboard drawer in the dark for a knife or a spoon, find your fingers entangled in the mane of a wooden horse minus the trunk and legs; but you will perhaps find your most valued books scribbled with drawings and scraps of school knowledge, and be obliged to give up a dressing-room that it may serve for a study to the boys. Then is the time for back-greens being stocked with rabbits, and pianofortes spoiled by drumming misses. If, when the eldest begin to verge upon maturity, there should be others at all the inferior stages of existence, how vast a system does the household become! The young men bring their friends, as they call them, and the young ladies bring their boarding-school companions. Boys of ten bring boys of ten, and even misses of four and five have similar misses introduced from next door to play with them. It is a great era when Master Thomas or Miss Eliza can venture to descend with these acquaintances from frowsy back rooms, where

hitherto they have observed a modest obscurity, to the full blaze of the dining-room, where father and mother sit in state. Happy, in this respect, are the eldest of the family. There is a kind of eagerness on the part of parents to receive their first-born into the pale of manhood and womanhood. It awakens a new feeling in the parental bosom. Accordingly, the intrusion of a few dashing young beaux and smart school misses is rather liked than otherwise. But when the younger branches grow up, they not only want the advantage of this novel feeling on the part of their parents, but have a fight with their elder brothers and sisters to establish their claim to adolescence. When far past the age at which the eldest were treated as men and women, they are still considered as mere boys and girls. Their pretensions to long-skirted coats and proper young-lady-like dresses are scouted, and the friends brought by them to the house are condemned to the upper bed-rooms, although in reality better people than those who some time ago were admitted to the honours of the parlour. The struggle which second and third children have to go through, before they are accepted as men and women by the first, is worse than a family dispute for the throne of Turkey. We have known such persons fully three-and-twenty years they managed the point, by which time they had for several years been invested with the toga by all the rest of the world. Till that time the eldest son monopolises the attention of father, mother, and domestics, while the juniors are left to content themselves with little more than a negative permission to exist. The eldest daughter is equally sure to have a better shawl than any of her sisters, who, if they can obtain a reversion of hers before it is much worn, usually think themselves extremely well off. The drama of Cinderella is one which is enacted in a more or less complete form in every large family.

To rear a numerous progeny through all the various stages, and finally set them forward in life, is unquestionably a task of considerable difficulty, and attended with no small degree of anxiety. Yet, if circumstances be not singularly unfavourable, so as to produce real trouble and sorrow, there can be no doubt that the effect of such a duty upon the mind is highly beneficial. The domestic relations are of immense importance in developing and keeping awake the affections. We can scarcely be afflicted with hardness of heart towards any benign sentiment, if we have known what it was to be brother, husband, and father. Women are peculiarly liable to be improved in general humanity by having children. When a mother of young infants passes a little child which has been left neglected upon the street, she cannot rest till she has seen it attended to; the no-childed would have never remarked the circumstance. When the mother of a set of roistering boys passes a merry group of the same order, she is almost sorry that decorum will not allow her to linger beside them, to survey their sports, and bless them with a mother's blessing. If, advanced in life, she has seen some of her sons leave her for distant climes, should her path be crossed by the homeless vagrant, who looks, but does not speak, a petition, she thinks that there may have been, or still may be, some one to whom he is as interesting as her own child is to her—or that her own child may one day appear to some other mother as this wretch now appears to her—and she extends to him the hand of melting charity. Thus does Nature, by an abundant flow of her finest sensations, remunerate those whom she has called upon to perform what many calculating people would consider a disproportionate share of her duties.

POPULAR INFORMATION ON SCIENCE.

PHENOMENA OF VIBRATING CHORDS.

THE means by which sound is produced, propagated, and perceived, have already been explained in this work. Sound may be defined as an effect produced upon the air, by certain motions and actions of particular substances, and perceived by the mind through the medium of a particular part of our bodily organisation designed for that purpose. A clapper falls upon a bell; the spot touched by the falling mass is pressed against the neighbouring parts, which react upon that first touched, and that again upon the neighbouring parts: a vibration of the whole is thus produced, of which any one may become sensible, by lightly applying his nail to the mass. Suppose that this process were to take place in the exhausted receiver of an air-pump, no sound would be heard; but the effect is different when the bell is hanging in the air. The air is an elastic fluid substance, liable to be driven to and fro, and intended partly as a medium for sound. Let it either be suddenly compressed, as when the contents of a gun are fired into it, or rarified, as when a portion of it rushes into the vacuum left in the gun by the explosion of the contents, and a phenomenon of a most interesting kind takes place. In all directions around the spot where this sudden compression or rarification has been effected, a series of alternate compressions and rarifications is propagated through the air—a contagious repetition, as it were, of the first phenomenon; which compressions and rarifications, if occurring with sufficient and not too great rapidity, act upon the tympanum of the

human ear, whence a feeling of their particular character is conveyed by the auditory nerve to the brain. In air of ordinary density, these alternate compressions and rarifications travel outwards at the rate of about eleven hundred and forty feet in a second; their travelling has been compared to the rushing waves of the sea, where no single particle of the substance is carried forward, but the appearance of advance is produced by oscillatory advances and retirements of the whole of the composing particles. Hence scientific men have become accustomed to speak of *undulations* of the air, as the state into which it is thrown when sound is produced. In reality, however, the waves of the air in sound are concentric globes surrounding the spot where the sound originates, after the manner (if we may use so quaint a comparison) of a *nest of boxes*.

The qualifications of a substance to produce sound depend upon its elasticity, or power of vibrating. A block of wood, struck by a mallet, produces a dull sound, because of the little vibration to which the block is liable. But if a musical snuff-box be placed upon the case of a piano-forte, a very powerful sound is obtained, proportionate to the liability to vibration which resides in that wooden fabric. When a wave of sound meets an elastic substance, it is partly transmitted and partly reflected: this reflection, when it returns back directly, and after the original sound has ceased, produces the phenomenon called an *echo*. The more elastic the body against which sound impinges, the sound is the clearer: thus a music-hall rounded into a vault of bare hard wall is the best, while a room of irregular shape hung with tapestry, or even having ample window curtains, is very unfavourable for the enjoyment of melodious sounds. Churches and other places of assembly are sometimes, through ignorance of the science of sound, constructed in such a way that it is either impossible for any voice to be heard in them, or only possible by a very dexterous management on the part of the speaker.* It is a law of the waves of air which produce sound, that as they travel outwards, they always become weaker and weaker, and this the more rapidly the more open the place in which they are acting. When confined within a cylindrical tube, a whisper may be conveyed with perfect distinctness to the distance of half a mile, and might go still farther were it not for the friction of the interior surface of the tube.

To constitute continuity of sound, it is necessary that not fewer than twelve simple sounds should succeed each other in one second at equal intervals. If a rod be quickly run along a close railing, a continuous sound may be produced, although it is obvious that a definite time must elapse between two successive sounds. The duration of sonorous impression on the ear, therefore, does not exceed one-twelfth of a second. Sound in this respect resembles light. A luminous curve may be formed by making a lighted match revolve at least five times in a second. In the same manner flame consists of a succession of gaseous explosions. What are called simple or uncontinued sounds are considered to be the result of one wave, or at most of two or three successive waves. But as a musical sound of a medium pitch is the result of two or three hundred vibrations or waves in one second, it is very probable that most simple sounds are the result of nearly as rapid vibrations, although their short continuance, frequently not one-tenth of a second, prevents us from ascertaining their pitch. If this remark be correct, then a simple sound continuing for the above very short period, may be the result of no less than twenty or thirty waves. In the case of a considerable explosion, the sound continues perhaps nearly a second, and may be the result of a still greater number of vibrations. It would appear, therefore, that simple and continued sounds admit of similar explanations.

A musical sound is produced by a series of equal waves arising from a body, the vibrations of which are synchronous—that is, performed in equal times. Any body capable of producing such vibrations with sufficient rapidity, is said to be musically elastic; and to this class belong elastic chords. Sounds produced by fewer than thirty vibrations in a second, are scarcely distinguishable from one another; and if the number of vibrations be much less than this, the sound is scarcely audible. So notes produced by about eight thousand vibrations in a second are scarcely distinguishable, and scarcely audible.

The rapidity of vibration of an elastic string, if the texture, material, and diameter be the same, depends on the force of tension by which it is stretched, and its length. Half the string will perform twice as many vibrations in a given time; the third of it, three times as many; and so on. Notes produced by a smaller number of vibrations in a given time, are called grave notes, and those formed by a greater number are called acute. From the above simple law, the number of vibrations performed by any string may be found. For the string may be lengthened till its vibrations become so slow that they may be counted; and if the number of vibrations in a given time, as in ten seconds, be found, and be multiplied by the number of times that the string has been lengthened, the product will be the number of times that the given string will vibrate in ten seconds.

* A long vaulted chamber, constructed a few years ago in the church of St Giles, Edinburgh, for the meeting of the General Assembly of the Church of Scotland, proved utterly unfit for that purpose, and had to be abandoned after one trial. We have heard of a church in Glasgow, where a strange preacher requires, before mounting the pulpit, to be tutored by the Kirk-session with respect to the acoustics of the building, which would otherwise be apt to throw him into confusion.

It is well known that plates of metal and other elastic surfaces produce musical sounds of various intonations. The principles upon which these sounds are elicited are analogous to those adverted to in reference to the vibrations of strings and wires; but a phenomenon of a very remarkable nature is observed in the chords produced from plates. If a plate of glass be taken, and grains of sand scattered over its surface, no sooner is the plate made to give forth a sound by drawing a substance across its edge, than the grains begin to move and combine into certain uniform figures. In performing experiments of this kind, the bow of a violin is usually employed to draw across the edge of the plate. The remarkable thing about these experiments is, that when the plate is grasped, or the chords deadened, in a different manner, different figures are produced. Sometimes the figures are round, sometimes hexagonal, sometimes octagonal, and so forth, but always in exact accordance with the degree of the vibration. The phenomenon thus developed, shows that in the vibration of chords or sound there are principles which bear a resemblance in character to those by which nature operates in crystallisation and other departments of her mysterious laboratory.

AN ANGLER'S RECOLLECTIONS.

THE first edition of Mr Stoddart's little work on angling having been speedily purchased, a second edition has appeared, containing additional information on that ancient and pleasing sport. To those brethren of the rod and tackle who incline to try our Scottish streams, there could not be recommended a more useful manual, both from the directions which it furnishes in reference to the mode of fishing, and to the districts where the best trout waters are to be found. The following are a few of the author's recollections and advices:—

"We think it proper, in this part of our treatise, to insert a few anecdotal notices, if they may so be termed, respecting such animals as are naturally the enemies of fish, and help not a little to diminish their numbers. Among these the otter stands foremost. The voracity of this creature is well known, and the uncommon massacres it will often effect among the choicest of our trout and salmon, render it greatly obnoxious to anglers. There are in Scotland comparatively few waters abounding in fish, which are not haunted to some extent by the otter, which, although naturally shy, and no lover of daylight, will at times, when in the pursuit, show a bold front, and has been known to contest its prey with man himself.

As an instance, we have heard it asserted by a gentleman, on whose word we place the most perfect reliance, that when angling for pike on the Loch of the Lowes, and about to land a fine fish of ten or twelve pounds' weight, he was surprised to observe a large otter swim ferociously towards it; nor did it cease in attack, until it had succeeded in carrying away the pike, hook, and all, to the astonishment of those present.

Another individual informed us, that, when angling in St Mary's Loch at night, he has frequently been followed at a short distance by an otter, ready to pounce upon such fish as he might happen to hook, although generally, by his presence, deterring any from rising. The same person, lately a resident at the head of the loch, close to Corsecleugh, once observed one of these animals lying asleep upon a piece of meadow-ground, close to the water, and on attempting to kill it, was forthwith assailed in return, and compelled to sound a retreat.

While angling in the still part of Tummel, immediately above Loch Tummel, we lately stumbled upon an otter, amusing himself under some bushes. Although within reach of our fishing-rod, the fellow raised himself boldly in the water to gaze at us, and seemed, like an upstart keeper, to question our right of angling so near his retreat. After a minute or so, he began to be satisfied with our appearance, and leisurely retired under water.

An otter catcher once informed us of a rare variety of this animal he had taken in a trap, and which he termed the king of the otters. According to his account, it was considerably larger than one of the common sort, and strangely spotted over with whitish spots. The capture of this specimen he considered a great achievement, as, although known, it was reckoned by most otter catchers extremely rare.

Those who employ night lines for pike, will sometimes observe how even the strongest are unaccountably broken; this we ourselves have remarked, and can attribute it to nothing else than the interference of one of these creatures, whose nocturnal depredations help not a little to destroy the finest fish in our waters. It has been said, that when an otter sets its eye upon a particular trout or salmon, it never loses sight of it, and after a few minutes' chase, is certain to secure its victim.

Besides the otter, the angler has two accomplished enemies in the heron and the water ouzel. The former, however, confines himself to small fish, such as par and minnows, and is not able to master the stronger

inhabitants of the flood; as for the latter, its object of attack is the spawn or roe, both that of the salmon and the trout. On this it preys with great voracity, devouring more than its own weight in the day, and searching even at the bottom of deep pools, in order to appease its appetite. The dainty manner in which the heron feeds upon the perch, is worthy of remark. Being prevented by the thick, indigestible coat of scales, and sharp spines of this fish, from swallowing it entire, the bird manages with its bill to take off the skin, and so get at the edible parts. We have started herons at this work, and examined with minuteness the half-fayed victim left behind.

Our Scottish waters are sometimes visited by the wild swan. St Mary's Loch, to which that bird is poetically transported by Wordsworth, is, however, a very rare place of resort. About four years ago, a large one was shot at the foot of Corsecleugh Burn, and at the same time two smaller ones were wounded and taken. One of these was sent by the person who captured it, to the late Sir Walter Scott of Abbotsford, and, we believe, lived for some time.

The large black-backed gull, esteemed a rare bird, we have frequently seen about St Mary's, as well as a fine specimen of the blue falcon, inhabiting the rocks at the Grey Mare's Tail, a few miles off. The nest of this latter is annually robbed, and yet, what is singular, the parent birds always return; nay, it is asserted, that if one of these should happen to be shot, the survivor provides itself with a mate before spring, although necessarily from a great distance.

We once saw what we should suppose to be a great curiosity, passing over our head while angling on the Earn in Perthshire. This was a white eagle, of a large size, and holding a steady flight, as if at a considerable distance from its nest.

While on birds, we may remark, what is well known to anglers, that the more familiar sorts are frequently captured with the fly. We once took a snipe by this means at Meggat Foot, while in the act of throwing our line over a trout which we had just raised. Also, on the Tyne, in East Lothian, we landed a bat, of which, at the moment, there were five or six playing about our tackle. At another time, we got hold of a wild duck, which sprang up at our feet when lashing the Machony, a small stream near Muthill, in Perthshire. The bird somehow proved too strong for us, and carried away our cast of flies in a twinkling. We luckily, however, found left behind it a full-grown flapper whereon to revenge ourselves.

In pursuing this train of miscellaneous observations, we may notice, what has escaped the remark of many, that mostly all dogs discover a singular antipathy or indifference towards live fish; yet we know of one belonging to the landlady of the St Mary's Loch club cottage, by name Gipsy, a cross breed betwixt the colley, or sheep-dog, and the Scotch terrier, which loves nothing better than to take its station on the shallow run betwixt the upper and lower lochs, in order to watch the shoals of perch which, during the months of March and April, congregate to spawn in this place; and when an opportunity occurs, Gipsy will be observed to make a sudden dash towards the bottom with its head, and generally secure a fish, which it carries to land, and forthwith kills. There is no race of beings this animal appears to esteem better than anglers; and it never forgets, even at the distance of two or three years, one who has permitted it to accompany him to the stream side. When there, it seems almost to take as much interest in the landing of a fish as the performer himself; and, if ordered to go in and seize the trout while yet in the water, will comply with the utmost alacrity. Of pike and eels, Gipsy is somewhat shy, and approaches them with considerable caution. Although fond of fish when cooked, he rejects them, like other dogs, in a raw state.

We shall devote now a portion of this chapter to the feats of anglers; and in order to impose silence upon vaunters, and undeceive the credulous, we allow it to be known plainly, in spite of the marvellous relations of Sir Humphry Davy and others, that no Scottish trout-fisher with the fly ever did, upon an entire average, manage to capture one trout, upwards of a pound weight, for every hundred falling short. We talk of common yellow unforced fish, not those which ascend from the sea, or are bred in artificial ponds. As for numbers, we believe that, in some places and weathers, a good hand at the rod may take, in a day's angling, from twelve to six-and-twenty, or even thirty dozen. A friend of ours, Mr John Wilson jun., captured, in the space of six or seven hours, no less than fourteen score some odds, from a small loch situated in the Caledonian Forest, near Loch Laggan; and this on a close sultry day, without a breath of wind. Thirty pounds weight of trout is considered a good day's work on Tweed, and few anglers are able to take so much.

On this river, it is of great importance not to overlook the feeding hours of the large fish, which are commonly for the fly from half-past ten to half-past one during the day, in spring, and in the afternoons, from five to seven, or eight, if the weather be warm. The summer feeding hours are of course both earlier and prolonged later. The best Tweed anglers confine themselves at most to a couple of pools, unless the water be very much reduced, and so rendered capable of being quickly fished over. Few rivers, however, will bear a perpetual scrutiny of this sort, without their inhabitants becoming shy and cautious. One of the best takes on the Innerleithen district of the Tweed, was achieved by George Graham Bell, Esq. advocate,

a couple of springs ago, with minnow, at a time when the water was flooded, and full of snow-brew, as it is termed. The largest yellow trout taken by him on that occasion weighed five pounds, and the entire quantity betwixt forty and fifty pounds, all of which were killed in the short space of four hours.

The St Ronan's or Border Club, established to encourage the athletic exercises among the Lowlanders of Scotland, adds angling to its other amusements, and gives an annual spring medal to the most successful of its competing members. This trial of skill and patience commonly takes place about the end of April or the beginning of May. The attendance, however, is seldom numerous, and chiefly local. Edinburgh anglers engaging in the contest, have of course very limited advantages in many respects, compared with such as are resident on the spot, and acquainted with every pool in the river. The first medal given was gained by Mr Thorburn, Juniper Bank, without very much competition. In the following year, he was succeeded by Colonel Macdonald, and after that by other anglers of celebrity. The inconvenient time when this competition takes place, renders it a matter of great indifference to those distant from the scene of action.

A salmon medal was likewise offered by the club, but we believe only once contested. On that occasion, unless we recollect wrongly, the Ettrick Shepherd carried off the prize, by killing the only salmon. This fish, a large one, weighing twenty-seven pounds, he captured almost without the assistance of his reel, having unfortunately dropt its handle. By great good chance, however, the fellow leapt out of the water in his endeavours to escape from the hook, and fell upon the bank.

Some of the best Tweed salmon-fishers are found below Melrose, about Kelso and Coldstream, where the fish are more plentiful. During the month of March, should it prove mild, and the river be clear of snow, a good angler sometimes captures above a score, or even two score, of salmon-kelts. As many, at certain times, might probably be taken on some of our northern rivers. These, however, especially such as run westward, yield a greater sufficiency of sea trout and whiting than full-grown salmon. We have heard that when the late Sir Humphry Davy angled in the Tweed, he happened, by good fortune, to hit upon an immense fish, weighing about forty-two pounds, immediately above Yair Bridge, and captured him, after a severe struggle. This feat he makes no mention of in his *Salmonia*, although, certainly, worthy of some notice. Few fish above twenty pounds' weight are ever taken in Tweed; and yet we believe the salmon of this river are generally as large as the Tay fish, and much more so than those of our other rivers.

The best craftsmen in Scotland are perhaps to be found among the lower orders, despite of their clumsy rods and rough tackle. We have met with such as were loading their creels at every throw, and yet seemingly without effort or science. In fact, the best proof of a good angler is his ability to conceal his skill. An indifferent-looking fisher often proves better than one who is all method and nicety, and wishes to let you know it. Our custom, when a brother angler heaves alongside, is to act our worst, and so prevent him from spoiling the water out of spite, which he is very apt to do, for the benefit of one he considers more skillful than himself.

And here we would advise, among other things, always to give the precedence to him who seems determined to take it from you, by his rapid advances towards the pools where you are engaged on; for, be assured, he is at once vulgar, ignorant, selfish, and upstart, and demands only your silent contempt. Even rustic anglers respect the rights of those before them, and consider it unlucky to pass each other, unless from necessity, or mutual understanding. Never refuse to show another the contents of your creel, should he ask you; but do not blazon them abroad to every one you meet, for vaunters gain no respect by their readiness to chagrin others. If you can help a brother angler in a difficulty, do it, whether by the gift of a few hooks, which cost you almost nothing, or by assisting to mend his rod when broken. Any such small service you will generally find well repaid. Do not grudge a mouthful of what was intended for your own refreshment, to one, although a stranger, who seems to require it as well as yourself. Be more civil to the gamekeeper than the squire, if caught in a trespass, but always put on a good-humoured face in order to get easily out of the scrape. When attacked by a watch-dog, give him across the head with the butt of your rod, and send a stone after him to keep him company to his kennel. Should a bull attack you, trust to your heels, or, if too late, stand steady, and jerk yourself out of the way the moment he lowers his horns; he will rush several yards, as if blindfold, and take a couple of minutes before he repeats his charge; use these to your advantage. Never carry another man's fish, nor part with your own to adorn an empty creel; in the one case you are tempted to bounce, and in the other you act the tempter. Should you hook a large fish and lose him, there is no need to publish your misfortune; sympathy in such a case is out of the question; and if you gain credit, you do more than you deserve. When engaged to compete with another angler, set about it silently; a boast on your part is an advantage to him, which you may understand the better on the close of the contest. When crowded over by a very indifferent angler, take it good-

humouredly; it is easier to depreciate skill than to possess it. Beware of tackle-puffers, and of such especially, of whom there is at least one in Edinburgh, who can afford to sell real Limericks at one-fourth of the cost at which they can be fabricated in Ireland. Had King Solomon been an angler, he would have added another chapter to his book of Proverbs, and Dr Johnson, out of respect for the wise man, would have spared his ill-judged sarcasm. The greatest losses an angler can sustain are those of his patience and good temper; they are worth a cart-load of salmon.

While crossing a rapid ford, expose as little of yourself as possible to the force of the water; keep the legs close, your side towards the stream, and one calf covering the other; should you feel yourself losing ground, plant the butt end of your rod firmly above you, but do not rest a single second in any one position without protection from the strength of the current. When angling, always keep one eye upon Nature, and the other upon your hooks, and ponder while you proceed. Never fall in love with one you meet by the water-side; there are situations when every woman looks an angel. And, last of all, keep up the fraternity of the craft. Anglers are a more gifted and higher order of men than others, in spite of the sneers of pompous critics, or the trumphy dixit of a paradoxical poet. In their histories, there are glimpses snatched out of heaven—immortal moments dropping from Eternity upon the forehead of Time. As a gift of his calling, poetry mingles in the angler's being: yet he treats for no memorial of his high imaginings—he compounds not with capricious Fame for her perishing honours—he breaks not the absorbing enchantment by any outcry of his, but is content to remain "a mute, inglorious Milton," secretly perusing the epic fiction of his own heart.

Blame him not that he hoards up the pearls of his fancy—that his forehead is unbared for no honour—that he hath buried his virtues in a lowly place, and shrunk from the gaze and gathering of men—that he courts no patron smile, and covets no state preferment—that he is barely heedful of crowns and their creatures, of party struggles and party declensions—that he wills for no privilege but that of his meditative pastime, and runs not headlong among the meshes of care, in which are so intricately entangled the wealthy, the ambitious, and the powerful. He is happier in the nook of his choice, than the usher of sovereign mandates on the throne of his inheritance.

And when he quits his humble heritage,
It is with no wild strain—no violence;
But, wafted by a comely angel's breath,
He glides from Time, and on immortal sails
Weareth the rich dawn of Eternity.

THE SPANISH CHIEF.

[The following piece, in the style of historical romance, illustrative of the early annals of the American continent, is from the *MAGNOLIA*, a highly embellished Transatlantic souvenir; New York, Monson Bancroft, 1836.]

It was the evening of a sultry day, sultry almost beyond endurance, although the season had not advanced beyond the early spring-time; the sun, though shrouded from human eyes by a dense veil of moist and clammy vapour, was pouring down a flood of intolerable heat upon the pathless cane-brakes, the deep bayous, haunts of the voracious and unseemly alligator, and the forests, steaming with excess of vegetation, through which the endless river rolled its dark current. On a steep bluff, projecting into the bosom of the waters, at the confluence of some nameless tributary and the vast Mississippi, stood the dwelling of the first white man that ever trod those boundless solitudes. It was a rude and shapeless edifice of logs, hewn from the cypresses and cedars of the swamp, which lay outstretched for a thousand miles around, by hands unused to aught of base or menial labour; yet were there certain marks of comfort, and even of luxury, to be traced in the decorations and appliances of that log-cabin; a veil of sea-green silk was drawn across the aperture, which perforated the massy timbers of the wall; a heavy drapery of crimson velvet, decked with a fringe and embroidery of gold, was looped up to the low lintels, as if to admit whatever breath of air might sweep along the channel of the river. Nor were these all—a lofty staff was pitched before the door, from which drooped, in gorgeous folds, the yellow banner, rich with the castled blazonry of Spain; and beside it, a tall warrior—sheathed from head to heel in burnished armour, with gilded spur and belted brand—stalked to and fro, as though he were on duty upon some tented plain, in his own land of chivalry and song. At a short distance in the rear might be observed a camp, if by that name might be designated a confused assemblage of huts, suited for the accommodation of five hundred men; horses were picketted around; spears, decked with pennon and pennoncel, and all the bravery of knightly warfare, were planted before the dwellings of their owners; sentinels in gleaming mail paced their accustomed rounds. But in that strange

encampment, there was no mirth, no bustle—not even the low hum of converse, or the note of preparation. The soldiers glided to and fro, with humbled gait and sad demeanour; the very chargers drooped their proud heads to the ground, and appeared to lack sufficient animation to dash aside the swarms of venomous flies that batted, as it seemed, upon their very life-blood; the huge blood-hounds, those dread auxiliaries of Spanish warfare, of which a score or two were visible among the cabins, lay slumbering in listless indolence, or dragged themselves along, after the heels of their masters, with slouching crests, and in attitudes widely different from the fierce activity of their usual motions. Pestilence and famine were around them—on the thick and breezeless air, on the dark waters, in the deep morass, and in the vaults of the pine forest, the seeds of death were floating—avengers of the luckless tribes, already scattered or enslaved by the iron arm of European war. Oh, how did they pine for the clear streams of Guadalupe, or the vine banks of Xeres—for the breezy slopes of the Alpuxarras, or the snow-clad summits of their native Sierras, those fated followers of the demon GOLD. How did their recollections dart upon the waving palms, and orange-groves, the *huertas* and the meads of fair Granada! In vain—in vain! Of all those gallant hundreds who had leaped in confidence and hope from their proud brigantines upon the glowing shores of Florida, glittering in polished steel, and “very gallant with silk upon silk,” who had traversed the wild country of the Appalachians, who had seen the gleam of Spanish arms reflected from the black streams of Alabama, who had made the boundless prairies of Missouri ring with the unechoed notes of the Castilian trumpet, who had spread the terrors of the Spanish name, with all its barbarous accompaniments of havoc and slaughter, through wilds untrod before by feet of civilised man. Of all those gallant hundreds, but a weak and wasted moiety was destined to reach the shores of their far father-land; and that not, as they had fondly deemed, in the pride, the exultation, and the wealth of conquest, but in want, and weariness, and woe.

The arrows of the savage, and the yet fiercer arrows of the plague, dearly repaid the injuries that they had wreaked already on the wretched natives—dearly repaid, too, as it were by anticipation, the wrongs that their children, and their children's children, should wreak in long prospective on the forest-dwellers of the west.

There, in that lonely hut, there lay the proudest spirit, the bravest heart, the mightiest intellect, the favourite comrade of Pizarro, the joint-conqueror of Peru! There lay Hernan de Soto—his fiery energies, even more than the hot fever, wearing away his mortal frame; his massive brow clogged with the black sweat of death; his eye, that had flashed the more brilliantly the deadlier was the peril, dim and filmy; his high heart sick—sick and fearful, not for himself, but for his followers; his hopes of conquest, fame, dominion, gone like the leaves of autumn! There he lay, miserably perishing by inches, the discoverer of a world—a world, never destined to bless either him or his posterity with its redundant riches.

Beside his pallet-bed was assembled a group of men, the least renowned of whom might well have led a royal army to do battle for a crown, but their frames were gaunt and emaciated; their cheeks furrowed with the lines of care and agony, both of the mind and body; their eyes wet with the tears of bitterness. The dark-cowled priests had ministered the last rites of religion to the dying warrior, and now watched in breathless silence the parting of his spirit. An Indian maiden, of rare symmetry and loveliness, that would have been deemed exquisite in the brightest halls of Old Castile, leaned over his pillow, wiping the cold dew from the conqueror's brow with her long jetty locks, and fanning off the myriads of voracious insects that thronged the tainted air. There was not a sound in the crowded chamber, save the heavy sob-like breathings of the dying man, and the occasional whinnings of a tall hound, the noblest of his race, which sat erect, gazing with almost human intelligence upon the pallid features of his lord.

Suddenly a light draught of air was perceptible—the silken veil fluttered inwards, and a heavy rustling sound was audible from without, as the huge folds of the banner swayed in the rising breeze. A sensible coolness pervaded the heated chamber, and reached the languid brow of De Soto, who had lain for the last half hour in seeming lethargy. Wearily, and with a painful expression, he raised himself upon his elbow.

“Moscoso,” he said, “Moscoso, art thou near me?—my eyes wax dim, and it will soon be over. Art there, for I would speak with thee?” “Noble De Soto, I am beside thee,” he replied; “say on, I hear and mark thee.” “Give me thy hand!” then, as he received it, he raised it slowly on high, and continued in clear and unflinching tones, though evidently with an effort—“True friend and follower, by this right hand, that has so often fought beside my own—by this right hand, I do adjure thee to observe and to obey these my last mandates!”

“Shall I swear it?” cried the stern warrior whom he addressed, in a tone and voice rendered thick and husky by the violence of his excitement—“shall I swear it?” “Swear not, Moscoso!—leave oaths to paltry burghers and to cringing vassals—but pledge me the unblemished honour of a Castilian noble—so shall I die in peace!” “By the unblemished honour of a Castilian noble—as I am a born hidalgo, and a

belted knight, I promise thee, in spirit and in truth, in deed, in word, and thought, to do thy bidding.”

“Then, by this token,” he drew a massive ring from his own wasted hand, and placed it on the finger of Moscoso, “then, by this token, do I name thee my successor—thee the leader of the host, and captain-general of Spain! Sound trumpets—heralds, make proclamation!” A moment or two elapsed, and the wild flourish of the trumpets was heard without, and the sonorous voice of the heralds making proclamation; they ceased, but there was no shout of triumph or applause.

“Ha, by St Jago!” cried the dying chief, “Ha, by St Jago, but this must not be; ‘tis ominous and evil! Go forth, thou, Vasco, and bid them sound again, and let my people shout for this their loyal leader.”

It was done, and a gleam of triumphant satisfaction shot across his hollow features. He spoke again, but it was with a feeble voice. “I am going,” he said, “I am going, whence there is no return! Now, mark me: by your pledged word I do command you, battle no farther, strive with the fates no farther, for the fates are adverse! Conquer not thou this region, for I have conquered it, and it is mine! Mine, mine—though dying! Mine it shall be though dead! March to the coast as best ye may, build ye such vessels as may bear ye from the main, and save this remnant of my people! Wilt thou do this, as thou hast pledged thyself to do it, noble Moscoso?” “By all my hopes, I will!”

“Me, then, me shall ye bury thus! Not with lamentations—not with womanish tears—not with vile sorrow—but with the rejoicing anthem—with the blare of the trumpet, and the stormy music of the drum! Ye shall sheath me in my mail, with my helmet on my head, and my spur on my heel—with my sword in my hand shall ye bury me, and with a banner of Castile for my shroud! In the depths of the river—of my river—shall ye bury me!—with lighted torch and volleyed musketry at the mid hour of night! For am I not a conqueror—a conqueror of a world—a conqueror with none to brave my arm or to gainsay my bidding? Where—where is the man, savage or civilised, Christian or heathen, Indian or Spaniard—who hath defied Hernan de Soto, and not perished from the earth? Death is upon me—death from the Lord of earth and heaven! To him I do submit me—but to mortal never!”

Even as he spoke, a warder entered the low doorway, and whispered a brief message to Moscoso. Slight as were the sounds, and dim as waxed the senses of De Soto, he marked the entrance of the soldier, and eagerly inquired the purport of the news. “A messenger,” was the reply—“an Indian runner—from the Natchez!” “Admit him;—he bears submission—admit him, so shall I die with triumph in my heart!”

The Indian entered, a man of stern features, and of well-nigh giant stature. His head, shaven to the chivalrous scalp-lock, was decked with the plumes of the war-eagle, mingled with the feathers of a gayer hue; his throat was circled by a necklace, strung from the claws of the grizzly bear and cougar, fearfully mixed with tufts of human hair; his lineaments were covered with the black war-paint; in one hand he bore the crimson war-pipe, and in the other the well-known emblem of Indian hostility, a bundle of shafts bound in the skin of the rattlesnake. With a noiseless step he crossed the chamber, he flung the deadly gift upon the death-bed of De Soto, he raised the red pipe to his lips, he puffed the smoke, and then, in wild accents of his native tongue, bore to the Spaniards the defiance of his tribe, concluding his speech with the oft-heard and forgotten cadences of the war-whoop.

As the dying leader caught the raised tone of the Indian's words, his eye had lightened, and his brow contracted into a writhing frown. He knew the import of his speech, by the modulations of his voice; his lip quivered, his chest heaved, his hands clutched the thin coverlid, as though they were grappling to the lance or rapier. The wild notes of the war-whoop rang through his ears, and in death, in death itself, the ruling passion was prevalent, manifestly, terribly prevalent.

He sprang to his feet, his form dilating, and his features flashing with all the energy of life. “St Jago,” he shouted, “for Spain! for Spain! Soto and victory!” and, with an impotent effort to strike, he fell flat upon his face at the feet of the Indian, who had provoked his dying indignation.

They raised him, but a flood of gore had gushed from eyes, mouth, ears; he had burst some one of the larger vessels, and was already lifeless ere he struck the ground.

The sun had even now sunk below the horizon, and ere the preparations for his funeral had been completed, it was already midnight. Five hundred torches of the resinous pine-tree flashed with their crimson reflections on the turbid water, as the barks glided over its surface, bearing the warrior to his last home.

But as the canoe came onward in which the corpse was placed, seated erect, as he had ordered it, with the good sword in the dead hand, the polished helmet glancing above the sunken features, and the gay banner of Castile floating like a mantle from the shoulders—the pealing notes of the trumpet, and the roll of the battle-drum, and the Spanish war-cry, “St Jago for De Soto and for Spain,” and the crash of the volleying arquebuses, might be heard, startling the wild beasts and the wilder Indians of the forest for leagues around.

There was a pause—a deep, deep pause—a sudden splash—and every torch was instantly extinguished. “The discoverer of the Mississippi slept beneath its waters. He had crossed a large part of the continent in search of gold, and found nothing so remarkable as his burial place.”

EARLY BREAD-BAKING.

THE design and end of all the toils of husbandry is to procure bread. However common this aliment is at present, the art of preparing it was very rude in its beginnings, slow and various in its progress, like all other human inventions. Several nations who had corn, did not know for some time the secret of converting it into meal, or the meal into bread. How many vast countries are there in both continents, where, though they have grain, the use of bread is still quite unknown! It is even difficult to conceive how certain nations came to find out the extreme utility and various properties of corn. The difference between bread and that plant in its natural state is prodigious. Yet nothing but the hopes of obtaining bread could have made whole nations apply themselves to husbandry, which is by far the most laborious course of life, and requires the greatest solicitude and attention. Accordingly, there have been, in ancient times, and still are, many nations who never would submit to cultivate the earth. The inconveniences of a wandering life appeared to them preferable to the sweets of a sedentary one, which could only be procured by means of agriculture. Those nations, then, who submitted to the fatigues necessary for raising corn, must have known beforehand that that plant would reward all their toil, and furnish them with the most solid and agreeable food.

It is impossible for men to live upon dry grain in the husk; they must therefore have studied several methods of preparing it. We find no practice so universal in ancient times as that of roasting grain. Almost all known nations have practised it, and the savages practise it at this day. What could be the reason of this? The most probable seems to me to be this. We have been told, that originally men made use of grain in its natural state. Of all the frumencious plants, if we believe the ancients, barley was the first that men fed upon. The grains of barley are involved in a certain husk or coat, of which it cannot be stripped but by the millstone. The far greatest part of these first nations knew nothing of mills. For want of this machine they made use of fire, to detach the barley from its husk, which made it almost impossible to be eaten. They found this further advantage in this practice, that the fire communicated a kind of flavour to the barley; for this kind of grain, when half roasted, has not a disagreeable taste. In Ethiopia, travellers commonly carry no other provisions with them but parched barley. When afterwards these nations came to grind their grain, this roasting of it was of great advantage. For many ages men knew no other way of grinding their grain, than by pounding it in mortars. The action of the fire upon the grain made it be more easily bruised and stripped of its coat.

We may reckon also amongst the first methods of preparing grain, that of steeping and boiling it in water, as they do their rice in the East. We know that the constant food of the Greeks and Romans, in their first ages, was grain prepared in this manner, the water swelling and softening the grain so much as to make it easily eatable.

Mankind were not long in discovering that grain wanted still further preparation. They soon observed that grain contained within its husk or coat a substance which required to be disentangled. This suggested the idea of bruising or grinding. The first instruments used for this purpose were only pestles and mortars of wood or stone. Nature pointed out these. The Greeks, Romans, and almost all nations, were a long time before they discovered any other method of making corn into meal. Many nations even in our days have no other machines for this purpose.

It is not easy to determine with certainty in what manner they made use of this kind of meal. Diodeorus says that the first inhabitants of Great Britain, after pressing the grains out of the ears, pounded them in a mortar, and so ate them; and these grains, thus pounded and bruised, were their principal food. We know that the Indians of Peru prepare their barley by first toasting it, then reducing it to meal, and so eat it in spoons, without any further dressing. We do not know whether the nations of antiquity used their pounded corn in this manner.

The first use they probably made of meal was to mix it with water, and eat that mixture without any further preparation, as the people in the Highlands of Scotland, and several others, do at this day, and which, in the vernacular of the Scotch, is called *brose*—a word derived from the Greek language, and therefore marking the antiquity of the dish. By and bye, people thought of boiling their brose, thus forming a kind of porridge. Boiled meal and water is therefore one of the most ancient kinds of food now in use. This process of making brose and porridge subsisted very long; meat, when it could be got, being sometimes an ingredient in the mess. Such a practice was in use among

the Greeks, Romans, Persians, and Carthaginians. The ancient inhabitants of the Canary Islands were no less ignorant of the art of making bread. They ate their meal baked with meat and butter. The savages make what we call their *Sagumite*, of Indian corn roasted in the ashes, pounded in a wooden mortar, and baked in an earthen vessel with all kinds of meat.

Some of the ancients might have discovered pretty early the art of converting corn into meal; but that of converting meal into bread, in all appearance, was not very soon found out. Yet till this discovery was made, it may be said that mankind enjoyed but very imperfectly the advantages of grain, whose true and best use is to be converted into bread. It is hard to imagine by what steps they arrived at this discovery. They must have invented dough, that is, to mix a certain proportion of meal and water together, stir them strongly, and several times. We may believe it must have cost them many repeated trials before they discovered the art of converting meal into bread. But in whatever manner this discovery was made, it was exceedingly ancient. The scriptures acquaint us that Abraham served up bread to the three angels which appeared to him in the valley of Mamre.

Their manner of making bread at that time was very simple. The ingredients were only meal and water, and perhaps a little salt. Their bread was not thick and raised as ours is at present; it was a kind of small flat cake, which they easily broke with their hands, and ate without a knife. Hence these expressions so frequently used in scripture, to *break bread*, the *breaking of bread*, and so on. It appears further that they did not knead their dough, and that they baked it immediately before they used it; a practice which subsists still in several countries.

They used but few precautions anciently in baking their bread. The hearth-stone commonly then served for this purpose. They laid a thin piece of dough upon this, covered it up with hot ashes, and let it lie till it was sufficiently baked. It was in this manner that Sarah prepared the bread which Abraham set before the angels. It is thus several nations in America prepare their bread at present. They wrap their paste in leaves, cover it first with hot ashes, and above these with live coal. Sometimes they may use hollow stones, sufficiently heated for this purpose. The practice of several modern nations leads us to think they did this. In some parts of Norway, at this day, they bake their bread between two hollow flints. The bread of the Arabians is a kind of cake, which they bake between two stones made hollow for this very purpose, and heated in the fire. The bread used by the savages of America differs but little from that of the Arabians. It is a kind of thin cake, which they bake either between two stones very much heated, or by laying their paste upon one hot stone, and covering it up with flints very warm. The bread of the Tartars of Circassia is made of the meal of millet, kneaded with water into a soft paste, which they bake about half enough in earthen moulds, and eat very hot. The bread of the greatest part of the nations of Africa is only meal kneaded with a little water, which they divide into small pieces, and bake on a stone or in an earthen pot upon the fire. They might perhaps anciently make use of a kind of gridirons, or frying-pans, in which they put their paste, and baked it over the fire.

The invention of ovens, however, is very ancient. They are spoken of in the time of Abraham. Some writers give the honour of this invention to one Anus an Egyptian, a person entirely unknown in history. These first ovens, I imagine, were very different from ours. They were (as far as we can judge of them) a kind of baking-pans of clay or fattish earth, which they easily carried with them from place to place. We may imagine also that these first ovens were very much like those of the Turks, which are of clay, and resemble an inverted tub or bell. They heat them by putting fire in the inside, and then lay the paste on the top: as these cakes are baked, they remove them, and put others in their room. All these different ways of baking bread which we have mentioned, still subsist in the East.

We have no reason to imagine, that as soon as men discovered the art of making bread, they found out the secret of raising the paste. If there be any one discovery owing to chance, it is that of leaven. The idea of such a thing could not come into the mind of man naturally. The world was indebted to the economy of some person or other for this happy discovery, who, in order to save a little old dough, mixed it with the new, without foreseeing the utility of this mixture. They would no doubt be very much surprised to find that this piece of old dough, so sour and distasteful of itself, rendered the new bread so much lighter, more savoury, and easier of digestion. We do not know the precise time when leaven came to be used. It does not appear that the bread which Abraham presented to the angels was leavened. Sarah baked it as soon as she had mixed the meal and the water. It is not at present the custom in the greatest part of Asia to ferment the paste. The use of leaven, however, was very ancient, and must have been known before Moses; for when that legislator prescribes to the Israelites the manner of eating the paschal lamb, he forbids them to use leavened bread; he observes further, that when the Israelites went out of Egypt, they ate unleavened bread, baked in the ashes, because, says he, they were thrust out of Egypt, and had no time allowed them to leaven their bread.

It must have taken much time and much labour to

reduce corn into meal in the mortar: this meal must also have been very coarse. I am persuaded that the want of proper machines is the reason why several nations who have corn, do not make it into bread. But by little and little the art improved. They must soon have discovered the utility of certain stones for crushing and grinding the grain. The rudest savages are not ignorant of this. They convert their corn into meal by means of two stones, the one fixed, the other turned about upon it by strength of arm, as our painters grind and mix their colours. It is probable this was their method in the first ages. This was still very inconvenient and toilsome. They would therefore endeavour to find out some more easy and expeditious way of grinding their grain. At last they invented the millstone and the mill—a notice of which will engage our attention in a subsequent article.*

THE INDUSTRIOUS POOR.

THE industrious poor are more to be admired than the most of us are aware of, for their careful frugality and patient self-denial in laying out the amount of their earnings for family sustenance. An honest working man generally lives within his income, which says a great deal for him, considering the temptations to which he is often exposed. Self-denial is a virtue of the most honourable kind; and in situations of inequality and of unfair remuneration for labour, its existence is absolutely necessary to constitute integrity of character. It is gratifying to think that there is now almost no necessity for impressing on the minds of the industrious poor the necessity of their exemplifying this virtue. Those who have had extensive experience among the labouring population, must allow that the men with families who are in the weekly receipt of an ordinary sum of money for their subsistence, are not only better behaved than those artisans who make what is called a high wage, but also that they are in general better educated men; and it may startle some to add, that the poorer man is by far the happier man, and enjoys more of the comforts of life. The tradesman who can make two pounds per week—when he chooses to exert himself—is, in nine cases out of ten, a spendthrift of time, money, and health. These are squandered away as if they were not of the slightest value. There are hundreds of such individuals employed about large towns, who are engaged in pursuits where they are more than remunerated for their mere manual labour (speaking comparatively with the rate of remuneration experienced by nine-tenths of the poorer class of tradesmen), who spend their money with the same thoughtlessness of its value as if it were absolutely impossible that the evils of sickness or the infirmities of age could come upon them. In too many cases their ignorance of its worth seems to grow with the increase of the remuneration. There goes a man of whom his brother workmen say, "he might be worth money if he would only take care of it. He is an excellent tradesman, and in some single weeks he will make from thirty shillings to two pounds; but yet he has scarcely a shirt to his back." How does this happen? Is he a drunkard? One would naturally suppose that no person would keep such a character in his employment. Yet the man's appearance and figure publish the fact on the open streets.

These individuals will sometimes take fits of sobriety, as the wasters and spenders take fits of thrift. They have been known to avoid the tavern for a whole month at a time, but they are sure to go back like the dog to his vomit. When the "pin is out," as they call it, they rush to the alehouse like fiends, and leave it in a condition the most deplorable.

But keeping these fits out of view—for they of course are not of every-day occurrence—how do they contrive to spend their high wages? The worst set of them begin the debauch on Saturday night, after receiving their weekly payment. They go from tavern to tavern, drinking with a crony here and a crony there. How they manage to get home, they cannot tell; but they generally find themselves in bed next morning, with aching heads and lightened purses. They probably get dressed, and walk out—not to go to church, but to renew the debauch of the previous night. This is a complete day of drinking, and it ends as usual. Next day (Monday) they feel inclined to have a single dram to steady the hand, and to put all to rights. It is perhaps at the breakfast hour that an adjournment is proposed, by a particularly drowsy shopmate, to one or two like himself, to the public-

house round the corner. The proposal is acceded to; and although it was the intention of one and all just to chalk up a single round of glasses, they invariably remember that it "is as well to be hanged for stealing a cow as a sheep," and they continue to chalk up and chalk up, and steal hours from their employment instead of minutes. There are certain trades, the followers of which are particularly addicted to this species of debauchery—stealing whole days instead of hours from labour in the dram-shops.

There is a custom indulged in to a considerable extent, by many of the well-behaved of well-paid young tradesmen, which must ultimately bring them to be classed with the ill-behaved. It is that of enjoying the pipe and the pint every evening in the *howf*, before retiring to rest. (The *howf* is a tavern or dram-shop especially patronised by the workers in a particular warehouse or factory, often kept by a cautious old shopmate, who has had long experience of his customers, and knows well whom to trust.) The danger of this is the greater, as the confirmed drunkard sometimes appears among them, and as amusement and variety are always to be had in the *howf*. The song and the joke are repeated, discussions arise, and here, indeed, many acquire the limited amount of information they possess on those topics that most deeply interest them. This melancholy fact can be easily substantiated, and it is mentioned here in a spirit of deep regret.

The many evils that exist in society may be traced to dram-drinking, and that, too, without displaying any great stretch of ingenuity. Intoxicating spirits are not a necessary of life, and their use always leads to unnatural effects. It has been stated that the *honest* hard-working mechanic, who has a wife and children, and who is barely remunerated for his labour, enjoys more of the comforts of life, and is, generally speaking, a more valuable member of the community, than the man whose labour brings a higher price in the market. From this statement it must not be inferred that those employers stand in our favour who will not, although they can, fairly remunerate their workmen. Live and let live, or where will the world run to? But we are stating a fact which has been ascertained from observation and practical inquiry; and it can be accounted for, on the knowledge that those who have a stated little, must be exceedingly careful in laying it out to the best advantage; while those who acquire their money easily, and who feel no necessity for reining in their improper desires—conscious, too, of their power of making, by a slight exertion, more than will suffice to meet the results of their ordinary extravagances—lose all notion of the value of their gains, and lay them out without a single calculation.

Although a lifetime of continuous labour looks alarming at first mention, it has been proved, in the most satisfactory manner, to be the life of health, and the lot of man. The poor man lays his account with this, and, knowing the amount of his earnings, sets his house in order, and with perseverance in prudential measures, he acquires the art of adding one little comfort to another, of varying his resources, and of preparing to meet contingencies as he could wish to meet them. Supposing that his income is sixteen shillings a-week, he must, in the first place, put forth the necessary outlay for food to himself and family. This done, he must allow for the many little items that a family require, beyond mere bread, to enjoy any degree of comfort. These are coals, candles, soap; clothes for himself, his wife, and children; a house rent, taxes, and so forth; all which must be paid for, probably, from his labour alone. His weekly expenditure for provisions must amount to at least ten shillings, and the other six must be most carefully laid aside, or touched upon but sparingly. It is evident, however, that few luxuries can grace his board. These do appear occasionally in small, dainty quantities, and then there is not wanting an appetite to relish them.

It is very obvious that this man, from the nature of his situation, and the circumstances in which he has been placed, must never weary in well-doing; for the moment he gives way to extravagance, he and his family will be the sufferers. Even the price of a single glass of gin or whisky is a something of material consequence to him; and he, consequently, must shun the alehouse. The poorer he is, it is the more necessary for him to support his character for honesty, integrity, and sobriety; for without that he would be poor indeed. He may, above all men, say, "You can take nothing away from me but my character;" for what

* The greater part of the above article is from a scarce book, entitled "The Origin of Laws, Arts, and Sciences," by De Goguet, a French author.

else has he to support him in his own esteem, or in the good graces of others? One cannot expect to have justice done him who will not do justice to himself, to his own talents and abilities—whatever they may be—and to the world at large.

The luxuries of the industrious poor do not consist either in eating or drinking: those who fancy that they do, mistake them very much. Their luxuries, indeed, are to be bought, but not always with money. While many of those who have been accustomed to another sphere of life and mode of living from his, are wearied and worn out with the mere fatigue of carrying and tasting for themselves of the intellectual enjoyments that are daily springing up in society, he eats heartily, for his healthy labour, his originally defective education, and his regular habits, have blessed him with an appetite that serves him to the end of his days. Art and science have opened up their massive volumes for his perusal, and the blessings of literature are daily within his reach. His own good behaviour does all the rest that is necessary.

THE SWISS.

SWITZERLAND (as generally known to our readers, a mountainous country, lying betwixt France and Italy, and a good deal resembling the Highlands of Scotland) is composed of twenty-two cantons or districts, each managing its own internal affairs, and the whole confederated together for mutual protection and other general purposes. The gross population of the country amounts to rather more than two millions. The chief employment of the inhabitants of Switzerland is the breeding of cattle and preparation of dairy produce. In manufactures, the Swiss have greatly improved of late years; linen, cotton, and silk goods, are now produced to a considerable extent, for exportation; and the making of clocks and watches forms a very extensive and lucrative branch of trade. Geneva is the largest town, and chief seat of some of these manufactures. The Swiss are a remarkable people, possessing many interesting points of character, worthy of being made known. We pick out the following sketches, illustrative of their condition and habits, from Mr Macgregor's recent production, "My Note Book" (published by J. Macrone, London), a work containing much valuable information on continental statistics.

SWISS COTTAGES.

The rural architecture of Switzerland is picturesque and pleasing. The farm-houses and cottages, especially in the valleys, are chiefly based on stone, and constructed of wood, usually larch, hewn smoothly, and joined closely together, the projecting roofs, gables, and sides, and the obtuse angle at top, are all, too, in the Grecian style. The ground floor is a kind of storehouse or cellar, and seldom inhabited, as the winter snows fall so deeply as to rise to the level of more than five or six feet. A gallery usually surrounds each of the other stories, and the roof projects above so as to shed the snow or rain off these balconies. The common ascent to each stage or floor is by stairs leading to the gallery. The roof and walls are covered with very small wooden shingles, which, in appearance, when laid on, resemble the scales of a coat of mail. The floors are of fir boards: each house has a large stove contrived to diffuse warmth around, and to answer all the purposes of cooking. Near this stove, which is handsomely made, and always shining bright, a small staircase leads to the second floor. The windows are extended in horizontal length along nearly all the breadth of the end walls, and occasionally in the side walls. They are formed of small parallelograms of glass set in wooden frames. The little pastoral chalets (or temporary huts for summer residence among the mountains) are of only one story—the roof covered with boards, which are pressed down with heavy stones to prevent the wind blowing them off. The barns and cattle-houses are well and commodiously constructed—the former often on the floor above the latter. In some parts, the roofs of houses and barns are covered with tiles, but this is only common in the strictly agricultural districts. Altogether, I have seen nowhere on the Continent of Europe, except Belgium and Holland, the peasantry so generally well lodged as in Switzerland.

ALPINE PASTURES.

The Alpine pastures are elevated in heights of two, three, or more ranges, according to the season—the herdsmen ascending with their cows and goats, and often with sheep, as the heat increases from early

spring to the high temperature of July and August, and then descending as autumn declines into winter. These pastures form the principal source of maintenance and opulence to the inhabitants of the greater part of Switzerland, Savoy, the Voralberg, and the Tyrol. Each pasture elevation has its particular chalets for the herdsmen. The butter and cheese afterwards carried down to market are made in these tiny habitations. Below in the valleys, or often in sheltered nooks on the brow of the mountains, are the winter houses for the cattle, which are then fed with the hay gathered by great industry even in spots to which the goats can scarcely resort. The intrepidity of the *maher* (mower) of the Alps is scarcely less than that of the chamois hunters. Whether he be gathering grass for the cows, blue melilot to mix with the cheese, or medicinal herbs for the druggist, he starts forth provided with food, *kirchwasser* (a species of strong drink), and tobacco—the soles of his shoes fortified with pointed nails, and with hay inside to soften his fall when he leaps from rock to rock—his gaiters unbuttoned below, to leave him free at the ankles, and a whetstone stuck under his belt, to sharpen the little scythe or sickle carried over his shoulder. He thus ascends to the hollows and crests of rocks on the brow and summits of mountains, and ties the hay he cuts in firm bundles, which he then pitches downwards from the heights. In this perilous way he in summer gains a scanty living. In winter he may be seen suspended by ropes, over precipices and gorges, to reach fallen trees, which he contrives to displace, and slide downwards for fuel. If he succeeds in saving, by these daring pursuits, enough to justify his demanding the hand of the maiden he loves, and whose father often has no more fortune than a little chalet, an Alpine pasture, and the milk of three or four cows, which the pretty peasant maid carries to sell in the valley, where he has probably first met her, he marries—takes a chalet, and becomes in his turn a herdsmen, and in time the proprietor of a few cows, and the father of a family.

WILD SPORTS OF THE ALPS.

The wild sports of Switzerland have decreased with the beasts of the chase, which are said to have been formerly remarkably abundant. There are still plenty of wild birds during the season; nearly every species in Europe frequents Switzerland, and in many parts there is not only an abundant field for shooting, but also excellent fishing. Woodcocks and snipes are shot in the alluvions or marshes of rivers; plovers, partridges, and also water-fowl, are met with in places not much frequented. The great vulture of the Alps, and those who perch on the rocky cliffs of lakes, are among the most formidable birds of prey, and many stories are related of their ravenous courage and strength. The Glarnisch, and other glaciers of Glaris, and the wilds of the lake of Wallenstadt, are favourite haunts of the lammer-geyer (the vulture which carries off lambs), or bearded vulture. A chamois hunter is said, several years ago, to have discovered on the scarp of a rock, near the summit of the Glarnisch, the eyrie of one of those winged despots. He took off his shoes, and stripped off all but his shirt and trousers, to enable him more easily to climb to it, and with only his fusil to support him at times, he climbed and crept up and along a narrow shelf suspended over a terrific precipice, until he reached the nest in which were the young brood. As he was in the act of taking them out, the old vulture darted furiously, with the rapidity of lightning, down upon him from the heavens, and fastened her talons deep in his naked side. He, however, in this dreadful position, when a single false movement was certain destruction, retained his presence of mind. He remained firm, until he drew with one hand the muzzle of his gun to the body of the vulture, and with the toe of one foot first cocked the lock and then fired the contents of the barrel through the body of the desperate tyrant of the air, which fell dead with its claws still sunk deeply in the hunter's flesh. The latter then descended safely with his prey—the young turned alive into his sporting-pouch, the old with its beak tied to its talons, hung round his neck. His wounds, the deep marks of which he always retained, are said to have been many weeks in healing.

But all the wild sports of Switzerland give place to hunting the chamois. We saw these graceful animals brought down on different occasions. To be an expert chamois hunter, all the qualities are necessary of a strong and active constitution, which can bear the extremes of heat and cold, whether in frosty nights on the Alpine rocks, or in the day exposed to a scorching sun—whether in wet, dry, snowy, or frosty weather. The hunter must not have any constitutional disposition to vertigo. His sight and hearing must be remarkably keen, his footstep sure, his hand firm and steady, with a presence of mind not to be suddenly startled in the most frightful perils. To these qualities must be joined strength to carry burdens, and also courage, patience, and experience—all these to enable him to overcome the most timid of animals.

The extreme timidity of the chamois, with its keen sense of smelling and hearing, and its active dexterity, are the gifts of nature, which enable it to avoid the huntsmen with such extraordinary watchfulness and fleetness. They are hunted with, but generally without, dogs. Dogs are only convenient according to the position of the places which the chamois frequent. Two, and never more than three, hunters go forth in the night, with a pike hooked at each end, so as to

take hold in ascending or crossing rocks or ice; also a mountain staff, armed or pointed with iron—a carbine or rifle—cramps with several points, and straps to attach them to the shoes to prevent slipping. In their large sporting-pouch, they carry, besides ammunition, a small telescope, bread, cheese, and *kirchwasser*. The first night they rest at one of the most elevated chalets, generally an open shed, in which they are warmed by a wood fire. They set off early on the following morning, in order to arrive at break of day near where they expect to find a herd of chamois, or they probably go first to place themselves on some favourite height, where they establish a lurking place on the verge of jutting rocks, where, to be hidden from view, they raise two large slabs of stone on edge, leaving a small interstice between to see through. One hunter then crawls on all-fours from this ambuscade, and looks through his telescope in every direction for the chamois, his comrades resting with the arms, &c. behind the upraised stones. If he perceives game approaching, he makes a slight motion in the direction with his hand. They then deliberate as to how they may kill or best approach them, in case the herd turns in another direction. As they know well the country, with its passes, and the safety rendezvous of the chamois, experience governs their decision.

The most dexterous hunter approaches from rock to rock—frequently creeping—sometimes watching half an hour or more, immovably flat, according as the troop moves; sometimes he takes off his white shirt, puts it on again over his clothes to resemble the snow or ice over which he creeps; sometimes he takes off his shoes, and walks barefoot, leaving all weight behind, over the dangerous ledges of precipices. At other times he stands immovable as the rocks—measures the distance he has to attain with the eye; and when he can distinguish the curves of the chamois' horns, he concludes he is within two hundred and fifty feet of the game. He then makes zig-zag or such other advances as he can. By patient circumspection he may at length approach within gunshot distance; and then, if he cannot mark the female leader, he fires at the largest and fattest. If it falls, he rushes to it, seizes it in triumph, and frequently drinks the blood in ecstasy, as he believes it to be a special antidote to vertigo. He then opens its stomach, throws away the uneatable intestines, ties the hind and forefeet together, and, throwing it over his neck, carries it down to his companions, who afterwards all make a frugal repast, and then continue the chase. At night they salt or smoke the game they thus kill. The skin is preserved for gloves, the fat for medical purposes, and the horns for sale. A full-grown chamois weighs from fifty to seventy pounds, and, in good condition, yields seven to eight pounds of suet or fat. If the hunters succeed in killing the female which leads the troop, the whole flock is stupified—they run confusedly round her body, and are all easily shot.

RURAL CUSTOMS AND FETES.

The pastoral peasantry, and those of the democratic cantons, are the most ardent in athletic exercises, and in celebrating the anniversaries of the great deeds of their ancestors. Many of their old observances are still reverentially maintained. The wrestlers of Entlebuch; the annual processions and cross-bow shooting at Altorf, on the spot where Tell hit the apple placed by Gesler's command on his son's head; the respectful funeral ceremonies; the egg-game of Unterseen; the dancing fêtes and wedding matches of Freiburg, and many other customs, are still celebrated with joyous enthusiasm. Many have, however, ceased to be observed. The diffusion of education, the new modes of agriculture, and the extension of manufacturing industry, are effecting changes and results in the manners and customs of the labouring population in Switzerland, similar to those in progress among the most enlightened nations of Europe.

The egg-game was generally played every Easter Monday at Berne and other places. It is still continued at Unterseen, where one hundred and one eggs are placed in a straight line at equal distances from each other. At one end an expert man stands, holding a corn-fan filled with grain, into which he dexterously receives the eggs thrown to him. Two young persons in gay costumes, and sometimes with hair powdered, join hand in hand, and, preceded by joyous music, follow one on each side the line of eggs to the farther end. They there separate; one runs with all his might to Neuhaus; there drinks a glass of wine, and runs back as swiftly, in order to be on the spot before the other can lift up all the eggs, one by one, and throw them in the same order into the fan. If he fails, or if one egg falls on the ground, the whole are replaced, and he must recommence his labour. The first who conquers receives a prize contributed by the spectators: a dance generally terminates this fest.

"Eating the bread of reconciliation" is one of the most pleasing customs of Switzerland, and is more particularly common in the Grisons. When two neighbours fall out, their mutual friends contrive to bring them together in the same house, and then prevail on them to sit down with the company to eat bread at the same table. If they succeed, which is generally the case, rancour and animosity cease—the persons at variance break and eat the same bread, and they afterwards are usually better friends than before.

In the Engadine, if a man has been falsely accused, imprisoned, tried, and acquitted by the judges, all the inhabitants assemble to conduct him from prison, and

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the prettiest young maid of the district presents him with a flower, "the rose of innocence."

The young always rise respectfully before the old, and they listen in silence to the tales of ancient times, related by the aged.

MR SHIRREFF'S ACCOUNT OF THE PRAIRIE LANDS.

WE now approach the season when intending emigrants will proceed on their voyage to the country of their adoption in the great Western World. Upper Canada will be the chosen settlement of some, while the western parts of the United States will be preferred by others. We believe that both districts possess advantages attractive to the settler, and that the preference will depend in a great measure on contingent circumstances. Having repeatedly described the characteristics of the Canadian province, we now beg to bring under the notice of our readers a work on the western parts of the States, formerly noticed in the Journal, namely, the *Tour of Mr Patrick Shirreff*,* an intelligent farmer, whose account of the prairie lands is extremely worthy of perusal by all who are desirous of emigrating, and should, if possible, be read by them before making choice of a location.

The following are his observations on the prairie lands:—"The word prairie is derived from the French, and signifies meadow. In America it means grass-land naturally free from timber, and is used in this sense by me. Prairies have not been found in the eastern parts of North America, and many conjectures exist regarding their origin in the west. Gradually passing from the forests and oak openings of Michigan, it was not until after crossing the river Des Plaines that I became fully sensible of the beauty and sublimity of the prairies. They embrace every texture of soil and outline of surface, and are sufficiently undulating to prevent the stagnation of water. The herbage consists of tall grass, interspersed with flowering plants of every hue, which succeed each other as the season advances. The blossoming period was nearly over at the time of my journey. Sunflowers were particularly numerous, and almost all the plants had yellow blossoms. Every day brought me in contact with species formerly unobserved, while others with which I had become familiar, disappeared. Occasionally, clumps of trees stood on the surface, like islands in the ocean. The bounding forest projected and receded in pleasing forms, and the distant outlines appeared graceful. I had no time for searching out and studying scenery, and perhaps conceptions of beauty and grouping of trees, formed in the artificial school of Britain, are inapplicable to the magnificent scale on which nature hath adorned the country between Chicago and Springfield. The works of man are mere distortions compared with those of nature, and I have no doubt many prairies, containing hundreds of square miles, exceed the finest English parks in beauty as much as they do in extent. Sometimes I found myself in the midst of the area without a tree or object of any kind within the range of vision; the surface, clothed with interesting vegetation around me, appearing like a sea, suggested ideas which I had not then the means of recording, and which cannot be recalled. The wide expanse appeared the gift of God to man for the exercise of his industry; and there being no obstacle to immediate cultivation, nature seemed inviting the husbandman to till the soil, and partake of her bounty."

From a close observation of the country, Mr Shirreff strongly recommends the state of Illinois as preferable for purposes of emigration, to any other in America. Speaking on this subject, in reference to the wages of labour and produce, he says—"If an ordinary mechanic work five days in the week, he will earn throughout the year, besides board, 260 dollars (a dollar is 4s. 6d. sterling); or of Indian corn about 1733 bushels; or of wheat about 580 bushels; or of beef about 13,000 lbs.; or of land about 200 acres—(land being sold at the rate of a dollar and a quarter per acre.) An ordinary farm labourer will get during the year, besides his board, 100 dollars; or of Indian corn about 667 bushels; or of wheat about 222 bushels; or of beef about 5000 lbs.; or of land about 80 acres. Female house-servants in private families get 52 dollars. How very different is the situation of farm labourers in England, Scotland, and Ireland, compared with those in Illinois! Supposing the weekly wages of labourers to be 10s., 8s., and 3s. 6d., without board, in England, Scotland, and Ireland respectively, and they do not exceed these sums, the Englishman will earn during the year about 70 bushels of wheat, or of beef about 1560 lbs.; the Scotchman about 62 bushels of wheat, or of beef about 1400 lbs.; the Irishman about thirty bushels of wheat, or of beef about 750 lbs. But when the board of the workman, or simply what he himself would consume, is taken from these numbers, they will appear quite insignificant compared with the wages of Illinois. An ordinary farm labourer in Illinois gets the value of eighty acres of land yearly. In Britain, when due allowance is made for the board of the labourer, he does not get one-tenth of an acre of good land. When wages are compared with land, the farm labourer of Illinois is about 300 times better rewarded than in Britain."

The wages of female servants, compared with the price of land, are also remarkable. I am sure there are many of my excellent countrywomen, who, if they could reach Illinois, would cheerfully earn a farm for their fathers, husbands, or lovers, by engaging in service. Perhaps in almost every case individuals, on their arrival in the country, would act prudently by working for hire for the first twelve months, even if they possess a little capital. By so doing, the knowledge which they would obtain of the country, and the intercourse of the people, would perhaps be of as much importance to them as the increase of funds. In the case of a family without funds, the members might separate entirely or partially, as circumstances admitted, and afterwards again unite when they had obtained the means of purchasing and farming land.

The land in Illinois to which the comparison of wages refers, is of fine quality, situated in the best climate of America, and, considered as a workshop, is not greatly surpassed by any portion of the earth. The view which I have taken of the reward of farm labourers in Illinois and Britain may appear excessive, yet it will bear investigation. The British labourer's reward of one-tenth of an acre would yield a mere trifle annually; but the Illinois labourer's reward of eighty acres might afford sustenance for himself and family for ever. The man who gives his services one year for hire in Illinois, and invests his wages in the purchase of land, obtains the services of nature on a large scale in perpetuity, and by leading a life of industry and economy for five or six years, he would be enabled to purchase and sufficiently stock eighty acres of land, which would for ever support himself and family.

Illinois may justly be called 'the poor man's country,' if any part of the world deserves the title. The extraordinary reward which the labourer receives, and the bountifulness of nature, are favourable to the poor, and no person who has health and strength, and leads an industrious and a virtuous life, can continue without the means of subsistence in Illinois. The future prospects of Illinois appear to be highly favourable. It will be found that almost all the elements of prosperity exist in the country. The soil, grass-covered surface, climate, internal facilities of commerce, cheapness and extent of land, and the systems of governing and educating the people, are not surpassed by any other portion of America, and inhabitants are alone wanting to complete its greatness."

This being a recital of only a few of the advantages which Illinois offers to labourers, and other descriptions of settlers, we refer to the work itself for much valuable information on the subject. Mr Shirreff considers that Illinois, from its fertility, freedom from forest, mildness of climate, and cheapness of land, is infinitely preferable to Canada; but it may be kept in view that the whole of western America is the country for the poor man, and offers boundless scope for physical industry. Mr Shirreff tells his readers that if agricultural employment is not to be had in the rural districts, "there is always a demand for labour in towns and villages, at high wages, and he need not remain idle if he is disposed to work. An industrious and sober man must rapidly accumulate wealth by working for hire, and many perhaps err by purchasing land instead of continuing to work under the direction of others. On leaving New York, a gardener, who was working at Haddington when I left Scotland, gave me ten pounds sterling, which he had saved since his arrival in America, to enable his wife and family to reach him. A young man, whom I had often employed at spade-work on Mungoswells farm, at 1s. 6d. a-day without board, was earning, by sawing stones at Cincinnati, 4s. 3d. a-day with board."

Whether emigrants intend to settle in Upper Canada or in the western states, we advise them to proceed by way of New York, as decidedly the most convenient and comfortable route to be pursued. They will easily reach the great Canadian lakes from New York, and thence, with equal facility, reach Illinois or any part of Upper Canada. We tender this advice in consequence of our having received a number of letters from settlers, entreating us to warn future emigrants of the horrors and dangers of the St Lawrence, the passage up that river being generally any thing but safe or agreeable.

ANECDOTES OF THE DEAF AND DUMB.

THE following anecdotes and notices of persons born deaf and dumb have been collected and forwarded to us by a youth labouring under these melancholy deprivations:—A lady, who is considered the first dilettanti mistress of music in Paris, tried an experiment upon a young woman who was both deaf and dumb. She fastened a silk thread about the girl's mouth, and rested the other end upon her piano-forte, upon which she played a pathetic air; her visitor soon appeared much affected, and at length burst into tears. When she recovered, she wrote down upon a piece of paper, that she had experienced a delight which she could not express, and that it had forced her to weep.

Another anecdote of the power of music over a pupil at the institution in Paris, is mentioned by the same authority. The hand of a girl was placed on the harmonica—a musical instrument which is said to have a powerful influence over the nerves—whilst it

was playing; she was then asked if she felt any sensation; she answered, that she felt a new sensation enter the ends of her fingers, pass up her arms, and penetrate her heart.

The following is described as a plan by which the deaf may in some measure be made to hear:—Procure a stringed instrument, with a neck of some length, as a lute, a guitar, or the like; and before you begin to play, you must by signs direct the deaf man to take hold, with his teeth, of the end of the neck of the instrument; then, if you strike the strings with the bow one after another, the sound will enter the deaf man's mouth, and be conveyed to the organ of hearing, through the hole in the palate; and thus the deaf man will hear, with a great deal of pleasure, the sound of the instrument, as has been several times experienced; nay, those who are not deaf may make the experiment upon themselves, by stopping their ears, so as not to hear the instrument in the usual way, and then holding the end of the instrument in their teeth, while another touches the strings.

It is mentioned in a German journal, that, in 1750, a merchant of Cleves, named Jorissen, who had become almost totally deaf, sitting one day near a harpsichord where some persons were playing, and having a tobacco-pipe in his mouth, the bowl of which rested against the body of the instrument, he was agreeably surprised to hear all the notes in the most distinct manner. By a little reflection and practice, he again obtained the use of this valuable sense; for he soon learned by means of a piece of hard wood, one end of which he placed against his teeth, to keep up a conversation, and to be able to understand the least whisper. He soon afterwards made his beneficial discovery the subject of an inaugural dissertation, published at Halle in 1754. The effect is the same if the person who speaks rests the stick against his throat or his breast, or when one rests the stick which he holds in his teeth against some vessel into which the other speaks.

The deaf and dumb acquire, by long practice, an astonishing readiness in understanding a person speaking to them, by closely observing the motion of the lips:—Bishop Burnet, in one of his letters, mentions the case of a daughter of Mr Godby, minister of St Gervais in Geneva. "At two years old," says he, "it was perceived that she lost her hearing, and ever since, though she hears great noises, yet hears nothing of what is said to her; but by observing the motion of the lips and mouths of others, she acquired so many words, that out of these she has formed a sort of jargon, in which she can hold conversation whole days with those who can speak her language; she knows nothing of what is said to her, unless she sees the motion of their lips who speak to her. One thing will appear the strangest part of the whole narrative: she has a sister with whom she has practised her language more than with any body else; and in the night, by laying her hands on her sister's mouth, she can perceive by that what she says, and so can discourse with her in the dark."

The Abbé Jamet, director of the Hospital of Bon Sauveur, lately exhibited at the Academy of Caen a deaf youth, whom he has so successfully tutored as to render him capable of speaking with tolerable correctness. Many members of the academy addressed the youth through the medium of his learned instructor, and put questions to him regarding his age and the course of his studies, all of which he answered without the least hesitation. The tone of his voice had a most striking, not to say unnatural, effect, and would have seemed to issue from an automaton, but for the motion of his chest, and the play of the organs of articulation. M. Jamet entered into some details explanatory of the manner in which this extraordinary result had been attained. His practice was first to draw on paper a mouth, and trace out the tongue in all the necessary positions for the emission of different sounds. Many of these, and especially the nasal sounds, he had great difficulty in teaching his pupil. It took him six months to master the liquid *l's*; and it is observable, that this is the sound which he pronounces with the least distinctness. The youth is so entirely deaf as not to hear even the loudest thunder; but when a carriage passes through the street, he says he perceives a noise beneath his feet.

The letter of Sir Astley Cooper to the late Dr Watson, of the Asylum for the Deaf and Dumb, at Kent Road, London, as to the character and gesture of a lad who was born deaf, dumb, and blind, is interesting:—"My Dear Sir—The boy whom I mentioned to you as having been born deaf and blind from congenital catarracts, was brought to my house by Mr Sanders, oculist; when he was entered into my parlour, he put his hands to the wall, and felt around the room until he met with a chair, on which he placed himself. A key was given to him, with which he im-

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mediately began to strike his teeth, and from which he seemed to derive great satisfaction. In lieu of the key, a piece of wood was put into his hands; he struck his teeth two or three times with it, and threw it from him with a whining noise, and with frequent lateral motion of the body, expressive of uneasiness and disappointment; but upon a key being again presented to him, he beat his teeth with great apparent pleasure, and seemed to wish to continue the gratification for a length of time. I wrote to Mr Sanders for further particulars, and he gave me the following account:—The lad's name is Mitchell, son of the Rev. James Mitchell of Ardelach, Inverness; his age, I think, about ten years, very strong, and apparently healthy. He was tractable, and his father and friends managed him very easily; for, after being gently patted on the head, he would readily submit to their direction and guidance for the accomplishment of any ordinary purpose. As soon as he came into the room, he walked around it, and traversed it, feeling every article of furniture. He had the custom of feeling every one, and of running his hands up and down their limbs, as if to judge of their stature. If any thing pleased him, he patted his stomach as if that organ had in the course of his existence given him most pleasure, and he instinctively referred to it for the expression of delight. His principal amusement consisted in hammering his teeth with some metallic substance, as a key, and was very angry when checked by the substitution of some other substance incapable of vibration. When I attempted the operation for the cataract, his friends lost the power of managing him; but when liberated from the restraint necessary on that occasion, he was equally tractable as before, and seemed perfectly free from sulkeness. He would not, however, suffer me to approach him afterwards without great difficulty, possibly distinguishing me by the nose.—I am, yours very truly,

(Signed) ASTLEY COOPER.

A boy, ten years of age, who had been completely deaf from his infancy, was cured by M. Deleau, a Parisian physician, by a method which has been tried with success before, namely, the forcible injection of air into the cavity of the tympanum, through the Eustachian tube. This, it seems, was done without causing any inconvenience, and has proved very successful. The development of the voice was gradual and difficult, and attended with many very singular phenomena. Before the operation, the boy could not hear any noise, however violent; his countenance was dull, his gait sluggish, and his manner stupid. On the restoration of his hearing, he testified great delight, took great pleasure in listening to all kinds of sounds, and was thrown into ecstasy by a musical snuff-box. It was long before he had an accurate conception of the direction of sounds. He very soon began to imitate simple sounds with his voice, such as the vowels *a, o, u*, and words containing them, such as *papa, tabac, du, feu*; but the more complicated sounds cost him great trouble, and he succeeded in pronouncing a few of them, not without extraordinary contortion of all the organs of speech. Very little progress was made in teaching him pronunciation, by the sounds merely; with the aid of the written signs he advanced much more rapidly. He has now been a year under tuition. He can distinguish the characters of various sounds, knows when they come from a distance, avoids carriages and horses, opens the door when any one knocks, can appreciate musical rhythm, knows all the sounds of his language, can repeat by memory a certain number of easy phrases, and even reply to them, and, finally, executes by speech whatever his preceptor orders him. It is a curious circumstance, however, that he still continues to use signs only in communicating with other people on ordinary occasions. This youth's case is detailed in the *Journal de Physiologie*, July 1825.

The following is a surprising instance of a dumb man speaking: it was communicated by Mr Felibien to the Academy of Sciences at Paris.—The son of a tradesman in Chartres, who had been deaf from his birth, and was consequently dumb, when he was about twenty-three or twenty-four years of age, began on a sudden to speak, without its being known that he had ever heard. This event drew the attention of every one, and many believed it to be miraculous. The young man, however, gave a plain and rational account, by which it appeared to proceed wholly from natural causes. He said that about four months before, he was surprised by a new and pleasing sensation, which he afterwards discovered to arise from his hearing a peal of bells; that as yet he heard only with one ear, but afterwards a kind of water came from his left ear, and then he could hear distinctly with both; that from this time he listened with the utmost curiosity and attention to the sounds which accompanied those motions of the lips which he had before remarked to convey ideas from one person to another. In a short time he was able to understand them by noting the things to which they related, and the actions which they produced; and after repeated attempts to imitate them when alone, at the end of four months he thought himself able to talk. He therefore, without having intimated what had happened, began at once to speak, and affected to join in conversation, though with much more imperfection than he was aware of. Many divines immediately visited him, and questioned him concerning God and the soul, moral good and evil, and many other subjects of the same kind; but of all these they found him totally ignorant, though he had been used to go to mass, and had been instructed in

all the externals of devotion, as making the sign of the cross, looking upwards, kneeling at proper seasons, and using gestures of penitence and prayer. Of death itself, which may be considered as a sensible object, he had very confused and imperfect ideas, nor did it appear that he had ever reflected upon it. His life was little more than animal and sensitive; he seemed to be content with the simple perceptions of such objects as he could perceive, and did not compare his ideas with each other, nor draw such inferences as might have been expected from him. It was apparent, however, that his understanding was vigorous, and that his apprehensions were quick. His intellectual defects, therefore, must have been caused not by the barrenness of the soil, but merely the necessary want of cultivation.

ON COMING OF AGE.

We have had several good hearty laughs, as usual, at the droleries of our old friend Hood, who, in his *COMIC ANNUAL* for the current year, recently published, has afforded a number of most amusing sketches—sketches, indeed, which no brain but that of the ready-witted author could have concocted. Hood is one of the most original minded men at present wielding a pen or pencil; and long, say we, may so lively and ingenious a writer live to promote mirth and amusement in our gloomy winter months—long may his book make its annual appearance as a guest at our firesides—long may it caricature and shame the vanities and vices of those who expose themselves to its censure. Among the burlesque poetical effusions worthy of notice in the volume for 1826, are the following stanzas on coming of age.

To-day it is my natal day,
Three 'prenticeships have passed away,
A part in work, a part in play,
Since I was bound to life!
This first of May I come of age,
A man, I enter on the stage
Where human passions fret and rage,
To mingle in the strife.

It ought to be a happy date,
My friends they all congratulate
That I am come to "Man's Estate,"
To some, a grand event;
But ah! to me descent allots
No acres, no paternal spots
In Beds, Bucks, Herts, Wilts, Essex, Notts,
Hants, Oxon, Berks, or Kent.

From John o' Groat's to Land's End search,
I have not one rod, pole, or perch
To pay me rent, or tithe to church,
That I can call my own.
Not common-right for goose or ass;
Then what is Man's Estate? Alas,
Six feet by two of mould and grass
When I am dust and bone.

Reserve the feast! The board forsake!
Ne'er tap the wine—don't cut the cake,
No toasts or foolish speeches make,
At which my reason spurns.
Before this happy term you praise,
And prate about returns and days,
Just o'er my vacant rent-roll gaze,
And sum up my returns.

I know where great estates descend
That here is Boyhood's legal end,
And easily can comprehend
How "Manors make the Man."
But as for me, I was not born
To quit-rent of a peppercorn,
And gain no ground this blessed morn
From Beersheba to Dan.

No barrels broach—no bonfires make!
To roast a bullock for my sake,
Who in the country have no stake,
Would be too like a quizz;
No banners hoist—let off no gun—
Pitch no marquee—devise no fun—
But think, when Man is Twenty-One
What new delights are his?

What is the moral legal fact?
Of age to-day, I'm free to act
For self—free, namely, to contract
Engagements, bonds, and debts;
I'm free to give my I O U,
Sign, draw, accept, as majors do;
And free to lose my freedom too
For want of due assets.

I am of age, to ask Miss Ball,
Or that great heiress, Miss Duval,
To go to church, hump, squint, and all,
And be my own for life.
But put such reasons on their shelves,
To tell the truth between ourselves,
I'm one of those contented elves
Who do not want a wife.

What else belongs to manhood still?
I'm old enough to make my will,
With valid clause and codicil,
Before in turf I lie.
But I have nothing to bequeath
In earth, or waters underneath,
And in all candour let me breathe,
I do not want to die.

Away! if this be Manhood's forte,
Put by the sherry and the port—
No ring of bells—no rustic sport—
No dance—no merry pips!

No flowery garlands—no bouquet—
No Birthday Ode to sing or say—
To me it seems this is a day
For bread and cheese and swipes.

To justify the festive cup
What horrors here are conjured up!
What things of bitter bite and sup,
Poor wretched Twenty-One's!
No landed lumps, but frumps and humps
(Discretion's Days are far from trumps),
Domestic discord, doddies, dumps,
Death, dockets, debts, and duns!

If you must drink, oh drink "the King"—
Reform—the Church—the Press—the Ring,
Drink Aldgate Pump—or any thing,
Before a toast like this!
Nay, tell me, coming thus of age,
And turning o'er this sorry page,
Was young Nineteen so far from sage?
Or young Eighteen from bliss?

No flummery then from flowery lips,
No three times three and hip-hip-his,
Because I'm ripe and full of pips—
I like a little green.
To put me on my solemn oath,
If sweep-like I could stop my growth,
I would remain, and nothing loth,
A Boy—about nineteen.

My friends, excuse me these rebukes!
Were I a monarch's son, or duke's,
Go to the Vatican of Meux
And broach his biggest barrels—
Impale whole elephants on spits—
Ring Tom of Lincoln till he splits,
And dance into St Vitus' fits,
And break your winds with carols!

But ah! too well you know my lot,
Ancestral acres greet me not,
My freehold's in a garden-pot,
And barely worth a pin.
Away then with all festive stuff!
Let Robins advertise and puff,
My "Man's Estate," I'm sure enough,
I shall not buy it in.

A SCOTTISH DRUNKARD REFORMED.—The only instance I have ever known of a confirmed drunkard giving the practice up, was Mr S—, an Aberdeenshire squire, who once drank to such an excess that he fell into a stupor, in which he continued for many hours without any visible signs of life, and was thought to be dead. He was stretched out accordingly; a carpenter being summoned to measure the body for a coffin, and the funeral cakes (called burying bread) ordered. An old woman who watched by the corpse had fallen asleep, but was awakened by a noise resembling sneezing: she jumped up, and perceiving the laird stirring one of his hands. Her fright and astonishment may be imagined; and, sallying forth, she alarmed the whole family. The doctor who had been sent for was still in the house, and found the dead man come to life. Restoratives were administered, and he was put into a warm bed, where he slept off the fumes of his debauch, without any knowledge of what had occurred. He was so horrified, however, on being told how nearly he had escaped being buried alive, that he made a resolution to drink no more. The doctor recommended a gradual abolition; and in six months his daily dose was reduced from a quart to a wine-glassful, to which quantity he limited himself for the rest of his life (fifteen or twenty years). His health was perfectly restored. Seven years after, he met the baker of the county town who had sent him the funeral cakes. This fellow was a wag, and sort of licensed character. Addressing the squire (who had been formerly at the head of the corporation) by his old title, he said, "Provost, you have, I dare say, seen in your time many an unco' thing; but saw you ever afore at account of your burying bread due seven years, and no paid for yet?"—and at the same time he thrust the bill into his hand!—*Gordon's Memoirs.*

COAL AND GOLD.—In a work published a year or two ago by a Spaniard, there is a comparison between the produce of the gold and silver mines in America and the coal mines in England, from which it appears that the gross value of the annual produce of the coal mines, which is 18,000,000 of tons, amounts to 450,000,000 francs, including the wages and other charges, whilst the produce of the gold and silver mines, including the same charges, is only 220,500,000 francs; showing a balance in favour of the coal of England over the gold and silver mines of the New World, of no less a sum than 229,500,000 francs. A franc is equal to 10d. sterling.

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